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## THE PREVENTION AND CORRECTION OF SPEECH DEFECTS

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The prevention and correction of speech defects is a topic which should be understood by all of us, but which is often misunderstood by most of us. Ignorance of this subject among those who have the care of children is appalling. This is due to the paucity of efficient literature. Parents have been compelled to depend upon the misleading advice of friends, who would suggest innumerable panaceas, the majority of which but serve to aggravate the condition.

The importance of this subject has been brought to the attention of the public, during the war, in connection with the training of men for the army. It was found necessary to reject almost 10 per cent of the candidates for commissions as officers because of poor articulation.

The points which we emphasized at the training camps, I am sure will be of interest to you: An officer must possess a forceful, commanding voice in order to create the proper morale. This was brought to my attention at Harvard, in the effect of the voices of the various commanders upon their men, and the spirit in which they responded to orders when drilling. Strong, rotund, well-delivered commands produced a fast response, while a poor delivery evoked only labored actions. So, with all of us in our daily course, it will be found that a clear voice, the ability to deliver words so that they can be easily understood, will inspire our auditors with a better feeling toward us—and a better understanding. Business men recognize that voice is an economic asset and many corporations refuse to employ those suffering from a defect of it.

It is necessary that a soldier have a proper development of the vocal cords in order to save his voice when compelled to speak

in the roar and din of the battlefield. This is a point upon which I have been lecturing to educators and one which you would appreciate if you were to come to the Board of Education on my office days, or to one of our speech clinics, and there see the number of teachers and pupils who suffer from aphonia, because they have never properly developed their vocal cords. I shall later dwell upon this phase of the work.

The third reason for better speech in the soldier treats the matter from a new viewpoint. Men with well-developed speech centers are less liable to "shell shock." The conclusion has been reached that if we develop these centers in the brain, we will increase the power and capacity of the other associated cortical areas. Man is differentiated from the lower animals by his ability to speak. Speech is the last center developed in the evolution of the brain and the first faculty lost when we suffer shock in any form. It acts as a keystone to the arch of the brain. This theory was applied in our army work, and in the development of the soldier it was deemed necessary to strengthen the speech centers in order to remove the tendency to neurasthenia. My assistants conducted speech clinics at the United States Army Base Hospitals at Cape May, New Jersey, and Fox Hills, Staten Island, for the treatment of soldiers who had lost their speech through "shell shock" or other causes. It was proved, in this rehabilitation work, that men with strong voices and well-developed speech centers were less liable to the ill effects of "shell shock." This principle of the development of the speech center as the keystone or binding link of the other areas of the brain also applies to the training of the child. If, in youth, we have a good development of this center, it will help in the proper training of the other associated brain areas, such as hearing, memory, color, and form.

The note of paramount importance which we are trying to impress upon the social mind is that of *general speech improvement* and the *prevention of defects*. In making a résumé of statistics, it has been proved that most defects arise during the school age, that is, between the years of five and nine. They occur after the child has entered school. There are a great many psychological reasons for this. I do not attribute the fault to the teacher but

to the curriculum which has neglected to allot sufficient time to this most important subject.

We should develop better voices. You can develop good voice production in almost any child unless there is an organic defect or some lesion in the brain. The simplest mode to follow is the daily practice of vocal gymnastics which will exercise the muscles controlling the vocal cords. If these are brought into play continually and sufficiently, you will produce the proper voice and a speech which can be heard. The exercises are built upon the six fundamental sounds: *Ah* (as in father), *a* (as in ate), *ee* (as in feed), *aw* (as in awning), *oh* (as in show), and *oo* (as in noon). These sounds are practiced first singly, then in combination as *ah-a*, *a-ee*, etc. A manual of exercises built upon these sounds may be obtained by application to the Department of Speech Improvement, Board of Education, New York City.

In the production of audible speech, it must be remembered that it is necessary to properly deliver the vowels. When we bring out the vowels we make the words carry. This is a point I give to public speakers and teachers. At the close of the day, when the teacher is tired, the tendency is to tighten the muscles of the face, to close the teeth, to raise the pitch, and to force out the words. At such a time, if one will think of the vowels (opening the mouth to let them carry) and lower the pitch, the effect upon the class will be noticeable and the expenditure of nerve power be diminished one-third. *The vowels or open-mouth sounds are the vehicles of our speech.* For example, take the word "vowel." If when addressing an assembly I say "vow-el," one can distinguish the word at a distance. If I mouth the vowels (no matter how great the breath-force expended), by the time the word reaches the rear of the audience, it might be interpreted as "owl," "fowl," or many other analogous words.

Children in the lower grades who are permitted to continue day by day the practice of faulty articulation and mumbled speech gradually develop defects which manifest themselves in the competition of later grades. To this add the complexities arising from speech conflict consequent upon difficult studies and we have our major disorders. *Correct habits of articulation and enunciation are*

*based upon scientific principles of production.* With daily practice and application of vocal gymnastics and phonic drills, the teacher can soon produce a proper vowel resonance, a clear enunciation, and distinct pronunciation. Spoken language is the result of a process of imitation. The only way in which the pupil can attain a faultless enunciation is for the teacher to constitute herself a model from which he *must pattern* his speech. *The proper development of voice—and the speech organs—should precede reading* because of the mental conflict in the visualization of his thoughts. Stammering commonly finds its inception, in the schools, in the pernicious practice of forcing children to articulate words difficult for them before the areas controlling speech have been properly developed. The brain centers for the production of speech very often do not keep pace in their development with the centers where we form the mental images of words or of written language. The result is that the child will think faster than he can speak; speech conflict will ensue and stammering be engendered.

Great progress has been made in solving the functional difficulties of the voice. These defects we have divided into five major classifications—each of which I shall briefly describe.

Speech defects are classified as follows: (1) stammering and stuttering, (2) lisping, (3) lalling and cognate defects, (4) defective phonation, and (5) foreign accent.

#### STAMMERING AND STUTTERING

More noticeable in its manifestations than other defects (because of its many acute phases) is stammering. Those suffering with this defect are probably the most neglected class of afflicted human beings in the world, having received until lately but little attention from either the pedagogic or the medical profession.

Stammering, according to its universally accepted meaning in English, is a halting, defective utterance. The sufferer has difficulty in starting a word or in passing from one letter to another. It is a momentary lack of control of the muscles or articulation in the effort to speak. Often the stammerer will come to an absolute halt, being unable to produce voice. The defect is sometimes accompanied by irregular spasmodic movements of the organs

of the body, often terminating in a partial or serious derangement of the articulate speech. One form of stammering is commonly known as stuttering. It is the unnecessary repetition of a letter or a word before passing to the next, as "d-d-dog," or "they-they-they went out."

Because of the limited space, I am forced to epitomize my remarks upon this type of defect. I would refer those eager for an exposition of the subject to my pamphlet published by the Department of Health of New York City.

The cure of stammering is at once complex and delicate. The slightest mistake may interfere with an effective treatment. There must be developed an equilibrium of emotions, a precision of thought, and a new habit of speaking. The instructor must make a psychological study of every case—treating each as a personal equation. He must induce an attitude of mind on the part of the sufferer which will increase determination and confidence. The habit of stammering is, in itself, sufficient to derange the nerve mechanism, producing a lack of confidence and excessive inhibition. The result is timidity and mental retardation. Stammering is abnormal and contrary to the proper functioning of the organs of the body, often terminating in a partial or serious derangement of the nervous system, which can only be corrected by removing the cause—stammering.

The stammerer is inharmonious in his being. We must vitalize and harmonize his three elements—mind, body, and voice. There is an inability to respond to stimuli because of his imperfect co-ordination. This sluggishness must be eliminated by quick, snappy response in gymnastics, whether mental, physical, or vocal. He must acquire control of his speech mechanism. That is the physiological cure just as control of his thought mechanism is psychological.

It is not by the laying of a cornerstone that a building is completed, but rather by the careful placing of one stone upon another. So must constant exercise be given to the stammerer until the larynx functions normally and the auditory images become fixed. We might summarize such exercises by placing them in six groups: (1) the development of a proper production of consonants and a

fast, responsive blending of initial consonants with the accompanying vowels; (2) syllabication; (3) tongue and vocal gymnastics; (4) silent reading for the study of production and phraseology; (5) reading aloud before mirrors, to experience visualization as well as new auditory sensations; (6) conversation while under the control of suggestion.

The fallacy of the following methods must be studiously avoided: (1) silence treatments; (2) breath control; (3) unusual intonation of voice; (4) use of synonyms for words that are feared; (5) rhythmic movements of hands or feet when speaking, and, in general, anything unnatural which will but serve to make the stammerer feel that he is atypical.

I would impress upon all that the advice given is generic and must be modified to serve the individual. Every case must be regarded as a personal problem, for, as brains differ in their thoughts, their reasoning power, their association of ideas, so the defects of speech arising in these brains manifest different reflexes which one must learn to detect *per se*. Many unnatural mental disturbances enter into the personal equation with which we have to deal. Therefore, when correcting a case, while we are removing the causes mentioned above, such as juxtaposition of the organs, over-innervation, rigidity, etc., it is vitally essential that we lead the sufferer into new channels of thought, new associations of ideas, and a different subconscious control of stimuli.

#### LISPING

Lisping is an imperfect production of sibilant sounds. A common form of this defect is the protruding of the tongue (lingual protrusion) when giving the *s* sound, saying "thith" for "this" or "thither" for "sister." This is merely a habit and is corrected by rigid supervision on the part of the instructor. The lisper must be taught to discipline his unruly tongue. A system of tongue gymnastics and a manual of lessons are employed with such cases, when referred to our special clinics.

Most cases of lisping find their inception during the period of dentition. This must be corrected when the second teeth come in by insisting upon an imitation of correct production, with the teacher or parent as a model.

## LALLING AND COGNATE DEFECTS

Lalling, as the word implies, signifies an acute sluggishness of the lingual muscles when speaking. This defect is rare in the high school, but commonly encountered in the elementary grades, especially among mentally defective children. Many of the cases of lalling are given the misnomer "tongue-tied." However, out of an average *hundred* cases brought to me as "tongue-tied" I find that but *one* really is. This defect is caused by a lack of co-ordination of the muscles of the tongue and is corrected by tongue gymnastics and the development of a faster response to stimuli.

Associated with lalling we find many defects, such as nasality and nasal twang. Nasality is the emission of too much sound through the nose. You will find, as a rule, that this has been caused by hypertrophied tonsils. It may, in exceptional cases, be directly due to a paralysis of the palate, but is usually the result of improper usage of the palate, which is corrected by stimulation and the exercise of raising and lowering the uvula, as employed in the tongue gymnastics. Nasal twang is the emission of all the sound through the mouth. In order to have perfect speech the fundamental sounds should issue from the mouth, but these must be reinforced by the resonance of the nasal cavities. The child with adenoid growths, deflected septum, or any interference in the nasal passages will not be able to use these different sounding-boards and the result is a nasal twang. In such cases he or she should be referred directly to a specialist.

## DEFECTIVE PHONATION

Defective phonation is the improper production of sounds due to slovenly speech and the lack of sufficient training in the proper phonic values. We hear "dat" for "that," "lidle" for "little," "couldjer" for "could you," and "Witch is Fit Avnoo?" instead of "Which is Fifth Avenue?" There is no organic cause for this. It is merely a habit, which may be corrected easily by drawing the child's attention to his imperfect production of these sounds. In most cases it is the result of environment. He does not properly visualize his words, nor is the auditory sense properly developed.



It is analogous with his poor spelling. The production of better articulation in speech will develop better spelling.

#### FOREIGN ACCENT

This is the largest class with which we have to deal in the public schools of our great city. It is the proper understanding of effectual methods for the elimination of this form of speech which will be a factor in the present national movement for the Americanization of the foreigner. Continued use of the mother-tongue causes a foreign articulation of the organs of speech and a different auditory conception of the vowel sounds. In developing a better habit of speech in these foreigners, we must always bear in mind sound production and tone variation.

From careful study, I have divided foreign accent into three classes: (1) the giving of improper or false value to our vowels, as for example, "Harry" pronounced as though it were spelled "Hairy," "Morris" as "Mawruss," "out" as "aout," "peach" as "pitch," "apple" as "epple" and "in" as "hin"; (2) placing stress on the wrong syllable, as "cha-rac'-ter" instead of "char'-ac-ter" and "or-gan'-i-za-tion" for "or-gan-i-za-'tion"; (3) the rising inflection at the end of sentences.

These various forms of foreign accent are corrected by developing a proper production of the vowel sounds, by a study of the phonic elements, and by a rehabilitation of pitch. I have prepared a syllabus on the subject which is now used in our public schools and may be obtained upon application to the Department of Speech Improvement, 157 East 67th Street, New York City.

The College of the city of New York conducts a summer clinic, where those interested (from any part of the country), may receive the necessary training to qualify them to become specialists in the field of correcting speech defects and general speech improvement. The methods taught are those employed in the public schools of New York City and adopted by the United States Army in its units for speech defects conducted at the base hospitals, where soldiers suffering from "shell shock" or other injuries were rehabilitated.